

*Virginia  
Wildlife*

FEBRUARY 1961

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# Virginia Wildlife

*A Monthly Magazine Dedicated to the  
Conservation, Restoration, and Wise Use of  
Virginia's Wildlife and Related Natural Resources,  
and to the Betterment of Hunting, Fishing and  
Outdoor Recreation in Virginia*

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## FEBRUARY

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**COVER:** Does he see his shadow? If he does, we're in for another month of bad weather! So goes the legend about February 2—Candlemas, better known as groundhog day. Photo by Leonard Lee Rue III.

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## The Earth's History and Us

THE February outdoorsman, watching the ice floes move relentlessly down our rivers to the ocean of their birth and seeing the stupendous gorges and rock strata carved through the mountains, cannot help but marvel at the richness and greatness of our earth's history.

The rivers of our earth have always carried ice, mud, sand and gravel to the sea, which, in settling, have spread layers over the sea bottom. Remains of various forms of life, such as shells, accumulated after death in these layers on the sea bottom, where their hardened parts were preserved as fossils. In time, these sediments consolidated into hard rock and were elevated above sea level.

The geologist studies these ancient sea deposits, which now form a large part of the earth's surface, and from the nature of the sediments and from the life remains, or fossils, that they contain he is able to reconstruct much of the past history of the globe.

The rocks in the earth's crust give evidence also of the physical conditions under which they were formed, and apparently the physical processes, such as erosion and weathering, have not changed throughout time. The life on the globe, however, is constantly varying, owing to a changing environment, and species after species sooner or later dies out to be replaced by another form. Rocks of a similar age, therefore, contribute similar species of fossils. Human history, which is measured in thousands of years, is but a very small part of historical geology, which necessarily extends back through many millions, even billions, of years.

If all the sedimentary rocks of past ages had been accumulated in their thickness in one place, we are told they would form a succession of strata 40 miles in height. This succession, known as the geological column or timetable, is constantly being referred to by the geologists in life history studies of the earth.

The earliest activities in the earth's geologic history are believed to have been the results of chemical and physical processes. It is believed by some that the first form of life was a one-celled plant, and from this primitive form of life, probably in the sea, all other forms of life developed. Thus through the ages there arose many plants and animals of the past and present, culminating in the age of man which dates to some 100,000 years when Primitive Man was said to have lived on earth.

The various ages of geologic time can be listed from bottom to top as follows: (1) Primitive Crust; (2) Archeozoic Era (age of unicellular life); (3) Protozoic Era (age of lower invertebrates); (4) Paleozoic Era (age of higher invertebrates); (5) Mesozoic Era (age of reptiles); (6) Genozoic Era (age of mammals and modern plants); (7) Phychozoic Era (age of man).

This brief and very inadequate portrayal of our earth's history has but one purpose: to show how rich we are in the great natural heritage that is ours and how great is our responsibility at the top of the geologic timetable for safeguarding and shaping this world in which we live.

Conservation in the past has been looked upon largely as mere wise management of natural resources. But now we know that it embraces more than a technology. Now we know that it also includes man's moral-ethical behavior toward his earth and all the natural things upon it. Surely learning to know our earth and its history, including our place upon it, is fundamental to developing a reverence for it—and for safeguarding it.—J. J. S.

### Would Feed Surplus Grain to Birds

WHY NOT secure from all the surplus grain the government has in storage about 10 bushels gratis for me and I will guarantee to feed it to the birds, or animals, not domestic. If you'd get 1,000 men to do same it would reduce that ridiculous surplus.

J. M. Buzby  
Remo, Virginia

### Approves of High Deer Harvest

WHEN the one-week deer season for Grayson County ended, we found that 13 deer had been killed on our place—one eight-point buck, one four-point, four does, and seven spike bucks about 18 months old. I have talked to several people who live in the vicinity, and the percentage was about the same for the area around us. It seems that this is one of the best things that could have happened to the deer herd.

Just before the season opened, a lot of objection was heard to the three-day doe season at the first of the week. People said all the does would be killed out and ruin the herds. Some people even posted their land for the first three days only to try to stop this. It seems from the percentage that this did not happen, as a lot of spike bucks were killed out that had been getting by during the bucks-only season.

This has an advantage besides in-breeding—the mountains in this particular section are devoid of acorns, one of the main food items for deer in this section. The does will have more feed this winter.

Clinton H. Ogle  
Hillsville, Virginia

### Taking Virginia Wildlife to Japan

MY SON and I have enjoyed the timely articles over the past three years and though we will be in Japan for the next three years will be looking forward to each issue. We have found that he has benefited and gained a great deal of knowledge regarding wildlife and conservation of natural resources from your magazine and consider it one of the best.

L. E. Amick  
Japan

### Likes Bird of the Month

I LOOK forward to every issue of VIRGINIA WILDLIFE. All the articles are interesting, especially The Bird of The Month.

James B. Barrett  
Marshall, Virginia

### Kudos

THIS is one of the finest outdoor magazines I have seen. Am eager to see each copy. My wife enjoys the magazine too.

D. A. Chamberlain  
Fordwick, Virginia



# The Next Fifty Years



Commission Photo by Kesteloo

"It was not until after the ratification of a treaty with Canada concerning migratory birds that anyone ever claimed that the Federal Government had any jurisdiction whatever over any type of game."

By CLYDE P. PATTON

**M**OST of the basic laws in this country, as they pertain to our wildlife resources, had their origin in English law and English common law. Many years ago, in England and in many other European countries, the ownership of game was vested in the sovereign ruler. The king and the nobility had the sole right to hunt and fish. This concept gradually changed over the course of time. With the freedom of the individual in the New World also came equal rights to share in the game and fish resources.

There is not time, and this is not the place, to give a full account of the progress of freedom—the freedom to use wisely or to destroy our natural resources. But it is essential, I believe, that we look at some basic principles—to see how they have been developed and how they might be further developed during the next fifty years.

With the signing of the Magna Charta, a *trend* began that made the *people* sovereign and the king little more than a figurehead.

When American Democracy was born, the people of America became, in fact, sovereign. Two great documents, the Declaration of Independence and the Constitution of the United States of America, brought to the common man a dignity he never before had known. With this dignity, and with this freedom, came responsibilities never before imposed upon him. In a new hemisphere, under a bold new government, the man on the farm and the man on the street were given a responsibility and an incentive that were completely new.

The following is quoted from a court ruling that has been cited many times in legal cases having to do with the ownership of game and responsibility for our wildlife resources:

"The ownership of game is in the people of the State, and the Legislature may withhold or grant to individuals the right to hunt and kill game, or qualify or restrict it, as in its opinion will best subserve the public welfare. No one

has property in animals and fowls denominated as 'game' until they are reduced to possession . . .

"At common law, title to game was in the King (with us now in the sovereign people), and no one could hunt game even on his own land without a franchise from the Sovereign. Wild game within a state belongs to its people in their collective sovereign capacity. It is not the subject of private ownership except when some express statute confers it . . ."

The Constitution of the United States provides for three branches of government: the Executive, the Legislative, and the Judicial. Little did the founding fathers realize how many bureaus, agencies, departments, committees, and subcommittees would be necessary to carry on the biggest business in the world, the United States Government. No single department of this government—not even the most powerful—can in any way be considered sovereign. It is within such departments or bureaus or agencies, however, that attempts have been made by individuals or groups of individuals to distort or pervert, often for personal gain, the concept of the ownership of our game and fish resources. For evidence of this, we may refer to records on the hearings that have been held by the United States Congress on certain game and fish bills.

Lest I be misunderstood, I wish to say here and now that for the most part the relationship between state and federal agencies concerned with game and fish has been excellent. As states, we owe a great deal to federal agencies for assistance, guidance, and counsel, for conscientious administration of federal aid funds, and for other helpful national programs beneficial to wildlife and other resources.

Coming from the South, I could be expected to feel strongly about certain constitutional prerogatives of individual states within our Union. This I do. We do not need to enter into an argument regarding states' rights. Such arguments serve only to segment our country into regional groups. There are, of course, regional differences; problems of conservation are different in minor ways in the various sections of our country. Basically, however, these problems are the same.

The Governor-nominee of North Carolina, the Honorable Terry Sanford, had this to say of his particular region:

Condensation of address by Mr. Patton before the annual convention of the International Association of Game, Fish and Conservation Commissioners, held in Denver, Colorado, September 15-16, 1960. Mr. Patton served as president of that organization this past year. Text courtesy of Wildlife in North Carolina.

Many Virginians will remember Mr. Patton when he served as publications chief and editor of Virginia Wildlife for the Commission of Game and Inland Fisheries in 1946 and 1947. He became executive director of the Wildlife Resources Commission in North Carolina in February 1948, and has served in that capacity with distinction since that date.



"We in the South cannot continue to isolate ourselves from the rest of the Nation. When we isolate ourselves, we invite the rest of the country to use the South as a whipping boy . . ."

This concept is equally true of every other section of the country, and it is true of the relationship between state and federal agencies. Rather than discuss states' rights, we should consider *states' responsibilities*. State governments, representing the sovereign people within their respective jurisdictions, have a clear-cut responsibility in the field of fish and game conservation. The extent to which this responsibility is fulfilled effectively and efficiently by state governments, for and on behalf of the people, will largely determine the extent of their freedom from encroachment by the Federal Government upon their jurisdictions.

To use another time-worn expression, "Eternal vigilance is the price of liberty." To paraphrase that expression, I would say that eternal vigilance, hard work, and adherence to the fundamental principles of good government is the price we must pay, and pay generously and willingly, for the continued state control of our heritage of fish and game. We cannot protect the interests of the people without, at the same time, assuming and fulfilling our own responsibilities as states, as provinces, as agencies, and as an organization.

Another prominent North Carolinian, Congressman L. H. Fountain, gave some straightforward words to the governors of the United States last summer at Glacier Park on the subject of centralized government and states' rights. He said that there is nothing perfect about centralization or uniformity in America; but he added that if the states and localities neglect their responsibilities, the consequence "will almost surely be a further concentration of power in the Federal Government."

"It is axiomatic," he said, "that the less we solve public problems at the state and local levels, the more such problems will be dealt with at the national level."

We cannot cry to high heaven for states' rights and at the same time shirk our local responsibilities.

The Honorable A. Willis Robertson, United States Senator from Virginia, clearly summed up the relationship between state and federal governments regarding game: "The whole matter goes back to the type of Union that was formed in 1789 when two-thirds of the original thirteen states ratified



Commission Photo by Kesteloo

The extent to which the States and their respective game commissions (such as Virginia's, above) fulfill their responsibility in the field of fish and game management will determine the extent of their freedom from encroachment by the Federal Government upon their jurisdictions.

the Philadelphia Constitution. The states that formed that Union were sovereign states, and they reserved for themselves and the people thereof all rights that were not specifically granted to the Federal Union. It was not until after the ratification of a treaty with Canada concerning migratory birds that anyone ever claimed that the Federal Government had any jurisdiction whatever over any type of game.

"Then, a case was tried in the Federal Courts involving the violation of the Federal regulation concerning the hunting of ducks; the defendant claiming that the Federal Government had no jurisdiction. However, the Supreme Court of Appeals held that the treaty with Canada gave the Federal Government jurisdiction because the Constitution provided that the law of the land should be what was in the Constitution, the Acts of Congress, and the provisions of ratified treaties. That case, while confirming Federal jurisdiction with respect to migratory birds also confirmed State jurisdiction with respect to all game birds and animals not covered by the migratory bird treaty." I consider this statement by Senator Robertson to be of utmost importance.

If our wildlife is to be properly controlled, managed, and used for the benefit of all, and the rights of the individual to equal benefits are to be protected during the next 50 years, we must continue to insist on compliance with the historic precept and law which establishes the ownership of game in the sovereign people and clearly fixes the responsibility for migratory and nonmigratory game with the respective federal and state governments. Also, there must be cultivated and maintained a spirit of cooperation and mutual respect between all agencies concerned in carrying out their responsibilities for the common good with special privileges to none.

Fortunately, these laws, precepts, and attitudes generally have been carefully observed by both state and federal governmental agencies. The exceptions have come about as a result of selfish, unsportsmanlike desires on the part of a few individuals seeking personal advantages or benefits from game and fish on public lands regardless of the law and the public interest. There have been occasions when congressional action has been necessary to resolve resulting controversies. The International Association of Game, Fish and Conservation Commissioners, and good sportsmen



Commission Photo by Kesteloo

"The ownership of game is in the people of the State, and . . . no one has property in animals and fowls denominated as 'game' until they are reduced to possession. . . ."





Commission Photo by Harrison

"Efforts to gain exemptions from state nonresident license requirements through federal legislation should be opposed." Above, Rev. W. A. Springer of Crozel gladly shows his license to State Game Warden Grayson Johnson.

throughout the nation, owe a debt of gratitude to the members of the United States Congress for the passage of such legislations as the Engle Bill which reaffirmed the sovereignty of the people and the authority of state legislatures over resident game and fish on certain public lands of the Federal Government where hunting and fishing were being permitted.

Fishermen who object to paying license fees required of nonresidents in the various states recently have asked Congress to pass a so-called Federal Fishing Stamp Act. The obvious purpose is to relieve transient fishermen of expense for annual nonresident state fishing licenses. Here we have another example of a few individuals seeking personal advantage with a proposal for encroachment on the well-established legal precept that the people of each state own and control the resident wildlife species, including freshwater game fish. It would appear that fishermen who benefit from state programs which produce and perpetuate these game fish should willingly pay their fair share of the cost as determined by state legislative bodies. Efforts to gain exemptions from state nonresident license requirements through federal legislation should be opposed. License fees of the states constitute the logical sources of income necessary to finance their respective fish management programs. Instead of functioning as license collectors, the proper role of federal government lies in the fields of long-term fundamental research, and in cooperation with the states in the management of interstate and international fish populations.

This same principle applies to all wildlife conservation programs. The states have the legal right, and the consequent responsibility, to manage resident wildlife populations. If they fail to carry out their responsibilities, there is no doubt that the federal agencies will assume these prerogatives.

Progress during the next 50 years will come about only through eternal vigilance and work to defend the important basic principles that have served us so well in the past. It will come through honest efforts to establish mutual understanding and respect between federal, state, and local governmental agencies, and national, state, and local organizations. The forces of conservation have banded together in organizations such as our own to cooperate in making progress possible.

### Part-Time Hunter Meets Full-Time Deer

When the mighty hunter returns from the field heavy of heart and light of game bag, he is likely to give voice to a lament with two anguished stanzas.

The first calls attention to what must be considered obvious: If the mighty hunter didn't shoot any game, then obviously it must be because there ain't any game.

The second is a logical enough development from that springboard: If there ain't any game, it's the fault of the game commission—who else?—and something ought to be done about it.

Now, however, Michigan wildlife experts have come up with the results of what many a mighty hunter might consider a dirty trick: They didn't make any snide insinuations—they just went out and proved what they really knew all along. And that is: A man who is a hunter only on a part time basis can well expect to be outsmarted frequently by a deer who works at being a deer all the time.

The Michigan experts didn't even embarrass anybody, except possibly their fellow experts, in the process. They put a fence 11 feet high around 647 acres in Cusino Wildlife Experiment Station in the state's wild Upper Peninsula, then put in 39 deer.

What happened was reported to the Midwest Wildlife Conference by R. C. Van Etten, one of the technicians involved.

In 1954, six veteran hunters entered the enclosure, knowing ahead of time that there were 7 bucks, 14 does and 18 fawns inside the fence.



Commission Photo by Cantner

A man who is a hunter on a part-time basis can expect to be outsmarted frequently by a deer who works at being a deer all the time.

Here's what happened: On "buck-only" hunts, hunters saw almost one deer an hour, but only one buck in more than 10 hours. They spotted numbers equal to about one-fourth the deer present—but only one out of 10 bucks.

During "any deer" hunts, hunters saw only 17 per cent of the deer known to be present, and only 3 per cent of the bucks. Fourteen hours were required to shoot any deer, and 51 hours to shoot a buck.—DION HENDERSON

*The Associated Press*

# Lowlands are the Heart of a Watershed

By RICHARD H. POUGH



S.C.S. Photo

Muskrat houses dot a typical marsh.

**R**ESPECT for the integrity of a watershed as it has been carved by the forces of nature should be the key to its management. The contours of the land and the character of the natural bodies of temporary and permanent water that occupy a watershed represent a dynamic equilibrium. The factors involved in such an equilibrium are:

Rainfall, especially the large amounts that can occasionally fall over rather short periods,

The ratio of in-soak to run-off on various parts of the watershed,

The balance between the temporary storage capacity of swamps and marshes and the capacity of the stream channel to carry off water.

Marshes and swamps act as "safety valves," filling with water during periods of peak rainfall—water which they slowly and automatically feed into the river as it rids itself of its overload and its level falls. Where many such "safety valves" were part of the original equilibrium, river channels are never very deep or wide, as the run-off from even a heavy storm could be handled with only a moderate increase in stream flow.

The urbanization of a watershed's upland drastically reduces its in-soak and increases its run-off over what it was when nature was carving the channels occupied by its streams. It is an inherent characteristic of dynamic equilibria that when one factor is changed, compensating changes must occur. If run-off is increased, either a stream's channel must be deepened and its flood plain widened or the temporary storage capacity of its swamps and marshes increased.

Now that man has largely taken over responsibility for the reshaping of water courses, he must do one or the other. Increased storage takes place automatically as every inch a stream rises results in the absorption of many millions

of gallons of water by its swamps and marshes before a further rise can occur. (A six-inch rise on a 10-acre marsh puts over a million and a half gallons into storage.)

Any attempt to solve the problem of increased run-off by local channel enlargement is anti-social. It only shifts the burden of handling the extra water on those downstream, aggravating problems they already face. Clearly the only sound solution is to retain and if possible increase the temporary storage capacity of every swamp and marsh.

Channel deepening or, if the head is low, channel widening are expensive and require continual maintenance to keep silt from reducing their capacity. The purchase of swamps and marshes and flood plain areas subject to frequent flooding is invariably far cheaper and the enlargement of their temporary storage capacity is inexpensive and involves little or no maintenance. Such areas also serve many other community purposes. First of all, they tend to promote in-soak which compensates for the reduced in-soak that comes with urbanization of the upland. As "green belt" areas they preserve the semi-rural character of a region and, except during occasional short periods when they are flooded, they provide recreation for those who enjoy wildlife, walking and horseback riding.

The cost of such land is trivial by comparison with what we are spending on highways, schools and other improvements. It is also trivial when one considers the cost of alternatives such as channel enlargement or the cost of the floods that will occur if nothing is done. Should the acquisition of such land necessitate the incurring of some bonded indebtedness, it is hard to imagine a more legitimate reason for going into debt as the maximum benefits from public ownership of such lands will be enjoyed by coming generations who will be living in an even more intensively developed landscape than today's.



# Wildlife and OUR OLD Farmhouse.

By KATHERINE W. MOSELEY

*Arlington, Virginia*

THE WOODCHUCKS of Rappahannock County, Virginia, gleefully whistled the word to each other, "Hey, a pair of city suckers has bought the old farm by the Covington River for a weekend house. Come on, we've got it made."

Land-proud, we walked our acres. We found an incredible number of pairs of woodchuck holes, but the woodchucks were slow showing themselves. They soon learned that the rifle stood unused and that my husband and I were much too busy to ground hog watch. We noted, eventually, however, that they were creatures of habit and made short forays from the dens around 11 in the morning and three in the afternoon. We seldom saw more than two at a time and were greatly curious about the others who must watch or sleep in the chambers of their homes.

The old house had a crumbling stone foundation under all but the long, low front porch which we enclosed and pine-panelled to make a living room-den. I use the word den purposely.

One night of the first spring we spent there, we heard under our made-over living room floor the furtive movement and rustling of a soft body as it thumped against the foundation. A closer inspection the next morning showed a gaping hole where a stone had been removed. Waiting until the middle of the day when we assumed our guest had departed to go about his ground-hog business, my husband, Gray, cemented the stone back in place and began to renew with concrete other loose stones, adding a solid wall of rock under the living room floor.

The next morning a hole had been burrowed under the wall. Again, waiting until noon, Gray filled in the hole and replaced more and heavier rocks. It became a game of patience and persistence. Every morning a completely unexpected opening would have been dug and every noon it would be closed, strong and stout.

Finally, the solid underwall of the entire house was finished and we felt it just had to be ground hog tight. Smugly we said to each other, "Holes are for ground hogs, houses are for people" as we settled down to read in the

sweet, old room as a stormy May night unleashed all the rain-dogs of the violent skies.

Then we heard baby animal squeals right under our feet. The tiny cries came again. There must have been four or five hungry little voices under the floor. Without a word Gray put on his raincoat, grabbed the flashlight and crowbar and went out into the wild, black night to pry loose the hardened concrete so that mother ground hog could have entrance and exit to her babies in their nursery.

\* \* \*

The hand-like paws were unmistakably that of a possum. We had seen the long, slender, widely spread toes of his footprints in the muddy edge of the spring overflow. By chance we squinted up into the bare boughs of the old dead tree that stood by a raspberry briar-filled ledge and saw him. The gray possum, a great furry brute, was stretched in perfect camouflage against the weathered, silver bark of an ironwood tree. His long skinny tail seemed tied in a knot to the stark, leafless branch. He was not playing possum but watching with detached curiosity the foolishness of man.

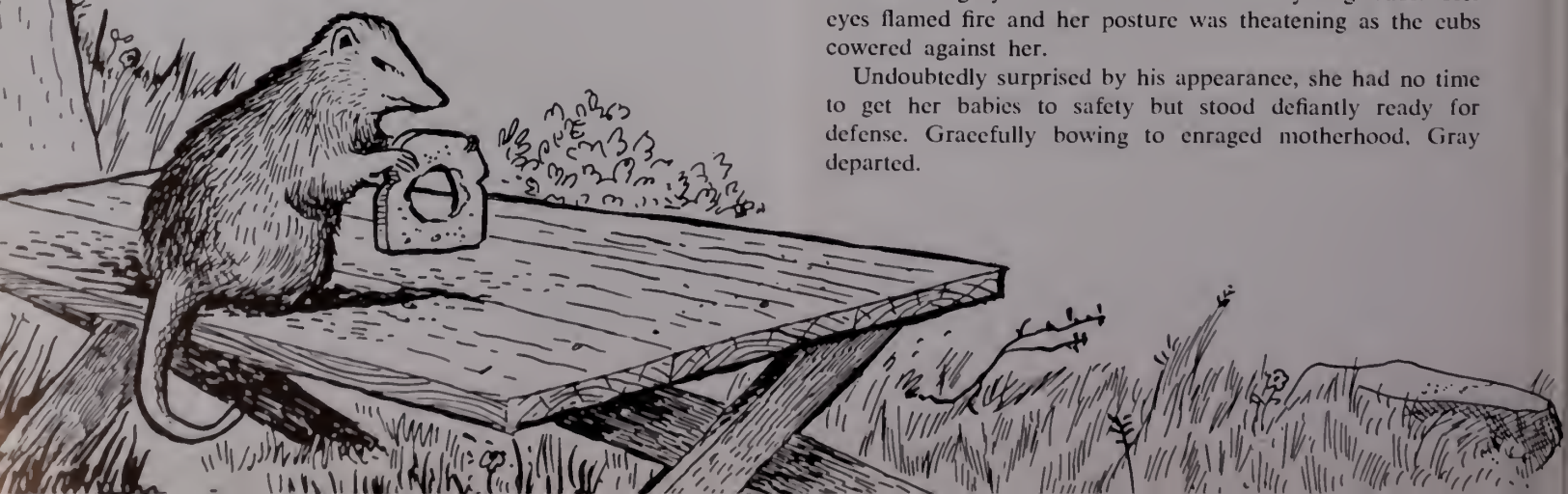
Just for fun I began leaving a slice of bread on the picnic table at night, wondering which of the wild woods animals would enjoy bakery bread. Early one dawn we saw the clumsy old possum sitting hunched on the table, holding the slice with his front paws as daintily as a dowager at tea. Carefully and thoughtfully, he gnawed a hole through the center.

\* \* \*

We often wish we could see through the black woolen blankets of night the countless small beasts who are our land-mates. They come forth when we are blinded by darkness to make up a bright-eyed, furry world of their own. It is only in the early dawn or as twilight deepens that we catch a glimpse of these animals who own the land more than we. One night Gray inadvertently entered their life.

The flashlight had been left in the car so before we went to bed about midnight Gray went for it. The second he opened the car door a gruff, harsh, hoarse bark warned him. Immediately he threw on the headlights and their beam revealed a gray mother fox with three young cubs. Her eyes flamed fire and her posture was threatening as the cubs cowered against her.

Undoubtedly surprised by his appearance, she had no time to get her babies to safety but stood defiantly ready for defense. Gracefully bowing to enraged motherhood, Gray departed.







Our farmer friend suspected that she has her den in an abandoned woodchuck hole behind the barn. Inspection proved it did have that certain lived-in look with fresh dirt piled about and smoothed as though young bodies slide its golden length.

I suppose we care least for the fox as a neighbor, but his wit and grace give beauty and melody to country living. Some of the farmers have foxhounds, and the haunting tones of their deep-sweet voices echoing through the valley are magnificent. It is enchanting to watch from our window a daylight chase as the fox leads the dogs over the hillside across the river. A dry stone wall dating from pre-Civil War days is the exquisite runway for the graceful, lovely thing. As far as we can see, the fox lopes along with the dogs thrashing and howling behind. The voices become muted as they go downstream only to rise to crescendo as the river is crossed and they return.

\* \* \*

We have never seen the joker of our acres but we are told it has to be a raccoon. A large part of the pleasure of the country home has been sharing it. Few weekends pass that there isn't a picnic or barbecue. Whenever possible we eat out on the picnic table under two great white pines which we know are the handsomest trees in Virginia. A sturdy barrel on end is the refreshment stand from which to serve tubs of iced drinks. An effort is made to keep the bottle caps picked up but they are likely to plunk off unnoticed.

Shivery, frosty days made even piping hot Brunswick stew taste better indoors so we cleared the picnic area and Gray rolled the barrel into the barn for the winter. Under the barrel, on the ground there was a regular collector's hoard of bottle caps, a cigarette lighter, an earring, several cigar bands and a beer can opener! The covered top of the heavy, wooden barrel had a round hole, probably for drainage and through this hole our little friend had poked whatever glittered with appeal.

\* \* \*

The white pine trees crown a gentle rise above the house. Their spreading branches, larger than many ordinary trees, softly touch fingertips. Under them the fragrant, needle-carpeted earth flickers with sunlight and shadow. In the tranquility of their boughs, feathery guests make homes. They use the shimmering, green canopy as an orchestral podium

from which to awaken day with symphonies. In the spicy, hot sunshine, the varied bird calls and songs throb over the land. Looking up into the leaf tracery of the trees as the carillons ring out is to glimpse a world too perfect for man's comprehension.

We cannot name all of our bird neighbors as many are new to us in color and voice. They have amazed us with their lack of fear. Towhees scratch like chickens as we sit talking a dozen feet away. Flocks of goldfinches settle like gold dust in the trees. Flaming redbirds peck at the gnarled apple branches. Indigo buntings make one believe bits of the deep, blue sky have fallen. A pair of ruffed grouse parade in dignity across the path to the heavy woods. The quail whirr, 20 strong, as we approach.

Because we have not tried to harvest a regular garden we are not upset when the rabbits eat a row of lettuce, a terrapin practically stands on his tail to reach the tomatoes and the ground hogs develop a taste for cucumbers. The neighbors tell us the deer are their worst marauders. Maybe that is the answer; no garden, no deer. We have only seen them on our place in the dead of winter when snow has covered the higher mountains. Each time the astonishment of actually seeing one practically stops our hearts.

\* \* \*

Once again the changing tones of autumn's colorama dazzles and blinds. Goldenrod and blue asters seem pale against the dramatic backdrop of vivid-hued scarlet oaks. Yet they are familiar and dear, to be gathered to the heart for memory. The wild, savage coloring can only be borne in short passages.

Under the browning earth many of our wild neighbors have nestled down for the long winter's sleep. It is pleasant to know they are snugly safe as we, their land-mates, come as often as we can to the old farmhouse and build a fire in the aged Franklin stove. We, too, have found comfort and security in the freedom of these wild acres.





# CONSERVATION EDUCATION

## What It Is and What It Isn't

By JOSEPH J. SHOMON

**D**ESPITE more than 50 years of commendable progress in natural resources management and conservation in America, including efforts in resource-use education, considerable misunderstanding surrounds the meaning and scope of certain activities associated with, and related to, conservation. One of these gray-area fields of effort is what has been popularly called of late *conservation education*. Just what does it include, exclude, and can we come up with a definition that would be acceptable to the majority of those concerned?

Well, let us try to take first things first.

First, there are several reasons why this misunderstanding of conservation education exists. One is semantics. The same words and terms do not always mean the same thing to people. Since communication between persons is never wholly perfect, even with clearly understood words or symbols, any variation in word meaning quickly complicates the communication line. Second, words themselves are constantly changing in meaning, which adds still more to the complexity of the communicating process. Perhaps if we were all better students of semantics and all had more training in the liberal arts, particularly the humanities, we might be able to understand each other better.

It has been said that in spite of the advances in science and technology, in spite of the strides in the communications arts and skills, the mass information and education media, the average citizen, at least on some issues, is as uninformed as ever. Increased competition for the public mind in a fast-growing, complex society is the big reason why communications between individuals and groups is not getting easier but rather more difficult.

Thirdly, the history of conservation and, more particularly, conservation education in this country is too new for Americans to have a clear understanding of it or of the scope of its movement. Only time and continued dedicated effort on the part of all concerned in education and enlightenment will help this situation.

### Getting Certain Terms Into Proper Focus

Necessary to any intelligent understanding of conservation or conservation education should be, in my humble judgment, a clear understanding of what is meant by certain key terms. Such terms, for example, as communications, conservation, education, information, natural resources, propaganda, public relations, publicity, resource, and resource use should be defined at the outset. Once these are fully

and generally understood and once the objectives of conservation education are also defined or, better yet, agreed upon, then a definition of conservation education can be attempted.

Obviously few people will define the above-mentioned terms precisely alike. Here we witness the imperfection of communications immediately. Here, too, we see the trouble that semantics stirs up.

So for the purposes of clarity, I should like to explain how certain terms are used in this discussion.

**COMMUNICATION.** The process or act of transmitting and receiving messages among humans, including the message itself. Synonym: information. Language is the principal communications medium. However, all the perceptive senses are involved.

**CONSERVATION and CONSERVATION EDUCATION.** These terms will be defined later.

**EDUCATION.** The development of intellectual, ethical and spiritual capacities, values and performances in humans. It can be put into four categories: information, knowledge, understanding, and wisdom.

**INFORMATION.** The act of transmitting or communicating knowledge or knowledge itself. Hence, synonymous with "communication."

**NATURAL RESOURCES.** All endowments of nature outside of man himself, both actual or potential.

**PROPAGANDA.** The spreading of information, ideas, or doctrine for the purpose of influencing opinions and indoctrination. Now used chiefly in a derogatory sense.

**PUBLIC RELATIONS.** Deliberate techniques designed to capture and hold the good will of individuals who make up certain publics or the mass public.

**PUBLICITY.** Advertising of a place, person or thing.

**RESOURCE.** Any useful entity to man, including ideas. Hence, an abstraction.

**RESOURCE USE.** The utilization of resources by man with an emphasis on use of natural resources. Should really be called natural-resource use. In some education circles, resource use is synonymous with conservation.

**RESOURCE-USE EDUCATION.** Education in the intelligent utilization of natural resources in the interest of mankind, including the shaping of proper philosophic attitudes and actions towards them, with emphasis on wise, efficient use.

### Meaning of Conservation

And now for the most important of all the terms—*conservation* itself. In spite of its common usage, in spite of

Talk delivered before the annual meeting, Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service, United States Department of Interior, Washington, D. C., on November 30, 1960. Dr. Shomon is chief, education division, and editor, *Virginia Wildlife* magazine, Virginia Commission of Game and Inland Fisheries, Richmond, Virginia.



the glib manner in which it is used and referred to, the question rightfully may be asked, *Just what do we mean by conservation?*

Is conservation *only* wise land use, or use without abuse? Is it *only* economical or decreased use for the sake of future generations? Is conservation just good stewardship towards our natural resources? Is conservation a science? Is it a state of harmony between man and the land? Is it just "Prevent Forest Fires"?

Obviously one can get up quite a discussion here but, while such a discussion would be interesting and mentally stimulating, one must take a stand somewhere.

And how one takes a stand on conservation, of course, depends on several things: his background, his particular interest, his formal education, informal education (experience), his work and his skills. The farmer, forester, wildlifer, economist, lawyer, politician, industrialist, teacher—all have their stands and their points of view. While the definitions that these groups advance no doubt are all good, we find that they are different—different both in scope and interpretation.

All this suggests to us that the meaning of conservation as conceived by certain conservators and conservationists is not, and cannot yet be, fixed or standardized. The Pinchot-Roosevelt concept—however laudable—for example, after some 60 years of use is still a long way from being recognized by the Webster's publishers in defining conservation.

Conservation, then, remains pretty much a personal idea, a personal belief or conviction, with everyone having his or her particular way of describing it.

Personally, I find merit in the broader view that conservation is more than mere wise management of natural resources, that it is also a way of thinking, a way of believing and a way of acting toward our earth and all the natural things of the earth. Conservation, in this light, embraces both a technology—that is, a technological practice wherein our natural resources are managed wisely, with a minimum of waste and abuse—and also includes a personal philosophy—a philosophy having to do with man's ethical relationship to the earth and all the things of the earth. To put it in another vein we might say, It is also the ethical relationship of man to his entire natural environ-

ment. Or, still differently, It is the development of conservation mindedness or of a geobiotic ethic in man.

Not all people can be land managers. What's more, our land managers are getting fewer all the time. But everyone is a *user* of natural resources in one way or another. Hence, conservation, to be meaningful, must apply to the users and consumers of resources as well as to the land managers. This is a point often overlooked by conservationists in their zeal to get everyone interested in conservation. They want everyone interested in conservation but then they battle vehemently among themselves and others (notably the educators) to restrict the interest and participation. When conservation is approached from the *user's* point of view—and we're *all* users of natural resources—then we have a broader interest and logically a greater operating base. Unless conservation is approached largely from the angle of the user, it seems unlikely that it will become an acceptable idea for the great majority of the people. Here is where basic attitudes and beliefs become influential. If the users of our natural resources, who are the public, are to exhibit the right ethical behavior—regardless of their use interest—they must first develop the right understandings and attitudes and beliefs in order to guide their actions.

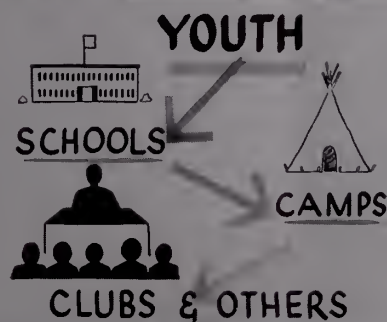
And how does one develop understandings and attitudes and beliefs? Is this not a process of education? I believe it is. To educate people, we must reach them with something more than information. There must also be absorption of information, which becomes knowledge; there must be basic understanding of the whys and wherefores; and there must be the development of wisdom.

Here we might stress again that communication, with its principal vehicle—language, is not enough in getting conservation across. Certainly, language is useful in imparting information, knowledge. But understanding, wisdom require more. Moreover, information alone, as it is generally understood, is inadequate for the communication of knowledge. Something, in addition, must operate to cause constructive thought and an inner change.

One of the chief reasons why resource-use education effort has not been more effective is that *language has been relied on* as the *principal* communications medium. The learner has not been involved in first-hand experience, mental

"We must develop among our people a strong conservation conscience, or an attitude and behavior marked by a state of conservation mindedness."

## Principal Areas of Conservation Education Endeavor



**ADULT**

MASS PUBLIC

SPECIFIC PUBLICS



and physical. Conservation demands that all the senses be involved in the learning process.

And so we come back again to the need of developing a firm base if conservation is to become important. This means that we must band together all present interest groups and expand the interest to others by all means at our disposal. Hence, the viewpoint here is that conservation, in addition to wise management of natural resources, also includes a way of life—that is, a way of thinking, believing, and acting.

Once we have a definition of conservation that is suitable or acceptable to us, then we can go on to discuss and define its several related aspects, one of which is conservation education.

But before a formal definition is attempted here, it might be well to examine some of the goals that workers seek in conservation or resource-use education. Also, some good examples of conservation education work might be cited.

While viewpoints differ on the specifics of conservation education, most conservationists who work in the education field would readily agree that the number one, broad goal of conservation education is *the development among our people of a strong conservation conscience, or an attitude and behavior marked by a state of conservation mindedness*. To put it still in another way, the goal of conservation education



Commission Photo by Kesteloo

Fundamental conservation education includes in-service training of teachers in conservation, such as at Virginia's three summer short courses sponsored by the state Resource-Use Education Council.

might be said to be trying to achieve conservation mindedness in the individual.

As to the specific goals of conservation education, from the point of view of a broad scope, we might list several, such as:

1. An understanding of and an appreciation—yes, a love and a responsibility—for *all* natural resources.
2. Developing recognition by all our people that our natural resources determine our standard of living, are basic to our survival, that they are in short supply and disappearing, and that all citizens have a personal stewardship responsibility for their careful use and wise husbandry.
3. Correcting the ill-founded notion that science and technology can take the place of conservation. Man, through science and technology, can surely aid nature but man's science cannot replace nature. Science and technology can aid in making for fuller and more efficient use of natural resources.
4. Learning that natural resources are related and possess a natural ecological unity and that man's welfare is inextricably bound up in this unity.
5. Developing a realization that many of man's ills can be directly traced to the abuse of his natural environment.

Conservation, then, can be a major basis for lasting peace.

The above goals, of course, are general conservation goals. Each natural resource group such as soil, water, etc., will, in addition, have its own specific resource education objectives. Although some resource groups may be conducting education work in a restricted area of conservation, it can be considered as part of the over-all effort of resource-use education or conservation education. However, conservation education should not be confused with many routine agency resource information activities, or with activities which can be conveniently lumped together under the so-called banner of public relations. The process of informing or communicating—with emphasis on “what”—including public relations, is one of the “inputs” of the educational process but it is not conservation education itself and should not be called such—not unless that agency is effectively doing something about selling over-all conservation principles. The development of the individual mind toward intellectual, ethical, moral and spiritual conservation capacities—the outcome—is, in the final analysis, the significant evaluation of the educational process and therefore only those activities specifically geared to such ends should be labelled as conservation education activities. Too much so-called conservation education is only concerned with “what” an agency is doing and not enough with the “why,” the “how,” the “wherefore” and “so what?”

Every resource information-education effort or activity, as well as resource-use education itself, has its high or low place on the conservation education scale. We can make our effort in information services at the far removed end and call it conservation education or we can get closer to the fundamental education base and make our stand there. In America far too many resource agencies are operating a variety of information programs and calling it conservation education, which is not according to our definition. They are simply not doing fundamental conservation education and are kidding themselves if they think they are.

Here, for instance, are some concrete examples of what is and what is not, in my judgment, conservation education material:

#### A. Fundamental Conservation Education

1. Book: *Conservation* by American Association of School Administrators
2. Book: *Things To Do In Science and Conservation* by Ashbaugh and Beuschlein
3. Booklet: *A Look at Virginia's Natural Resources* by the Virginia Resource-Use Education Council
4. Booklet: *Better Living Through the Wise Use of Resources*; Bulletin No. 15 Federal Security Agency
5. Chart: *How a Tree Grows*, U. S. Forest Service
6. Chart: *Ohio—Development of Basic Conservation Concepts*
7. Film: *Yours is the Land*

#### B. Resource Information or Publicity (not conservation education)

1. Articles and brochures on where to hunt and fish
2. Agency or organization house organs
3. News releases playing up personnel or an organization
4. Hunting and fishing films
5. Technical reports

Conservation education activities in America take two major forms: (1) fundamental or basic educational work

(Continued on page 17)



# VIRGINIA WILDLIFE

# CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

GAME COMMISSION BUDGET MAY BE BALANCED THIS YEAR. According to Game Commission Executive Director Chester Phelps, an increase this year in hunting and fishing license receipts sufficient to reverse the Commission's "deficit spending" trend of the last few years is indicated by preliminary reports from clerks and agents. The Commission, during the 1959-60 fiscal year, spent some \$369,138.97 more than it received from all sources, including license sales and Pittman-Robertson and Dingell-Johnson funds, he explained. Stating that he hopes license revenue will increase to the point where the Commission may operate on a balanced budget, the director noted that the revenue increase could probably be attributed to many hunters buying statewide hunting licenses instead of county licenses this season because of the small difference in cost.

W. H. BURRUSS OF LYNCHBURG OPENS BEDFORD COUNTY TRACT TO PUBLIC. W. H. Burruss, Jr., of Lynchburg has agreed to provide another in the system of cooperative public hunting and fishing areas being set up across Virginia by the State Game Commission, Game Division Chief R. H. Cross, Jr., reports. Bisected by Route 608 some 10 miles southwest of Leesville in Bedford County, the 2,684-acre, Burruss-owned "Smith Mountain Tract" now open to public hunting and fishing in season will adjoin the reservoir to be created by the Appalachian Power Company's Smith Mountain Dam. Whether or not the area remains open depends upon hunters' behavior, Cross said, urging all who use the area to have "good outdoor manners."

WESTERN VIRGINIA DEER KILL 18,225. A record total of 18,225 white-tailed deer were harvested by some 100,000 hunters in the 29 western Virginia counties which had a six-day open season on whitetails last November. The 1960 kill exceeded by 16 percent the 1959 take west of the Blue Ridge of 15,745 deer and was actually a 700 percent improvement over the deer harvest of 2,255 made in the same area as recently as 1950. This increased kill is attributed to more realistic regulations allowing annual harvesting of surplus doe deer as well as to improved game law enforcement and management measures.

Doe deer accounted for three-fourths of the 16 percent increase. While doe made up 39 percent of the western kill in 1959, their ratio last season rose to 43 out of 100. All but 224 of the 18,225 deer were taken in counties having identical seasons: three days of "hunter's choice" shooting followed by three days of "bucks only" hunting.

The 1960 western Virginia deer kill by counties: Shenandoah 2,534; Augusta 2,212; Bath 2,162; Rockingham 1,371; Smyth 1,246; Craig 967; Frederick 952; Grayson 891; Highland 658; Alleghany 607; Giles 602; Botetourt 537; Warren 535; Rockbridge 534; Page 521; Wythe 440; Scott 424; Wise 324; Washington 286; Clarke 99; Bland 72; Lee 66; Tazewell 60; Pulaski 42; Dickenson 24; Floyd 18; Roanoke 17; Russell 14, and Carroll 10.

EXPERIMENTAL BROWN TROUT STOCKING PLAN ANNOUNCED. Some 15,000 brown trout from the U. S. Fish and Wildlife Service hatchery at White Sulphur Springs, West Virginia, will be released in Virginia waters next month and again in 1962 and 1963 in an experiment designed to determine whether or not brown trout can make a contribution to fishing in The Old Dominion. The state does not plan to raise brown trout at its own hatcheries or stock them on a put-and-take basis but will attempt to establish spawning native populations in suitable waters.





Game Refuge Supervisor W. C. Newman and Game Manager S. E. Morris annually provide hundreds of food plantings for game, such as this one on a utility right of way, throughout the state forests.



Old logging roads too expensive to maintain in safe condition are "put to game food. Above, Biologist Max Carpenter helps Game Manager Max George Washington." George Washington



Acie R. Ford, game manager of the Hurricane unit on the Jefferson National Forest, discusses a road maintenance problem with his supervisor, Biologist Charles H. Peery.



The posting and maintenance of signs is one of the game manager's jobs. Here, Supervising Biologist John H. McLaughlin watches Gullion Fork Unit Manager G. T. Burton prepare for a trail sign for posting.

## Jack of All Trades—The

Text and Photo

At one time or another, all of us have wished we had this kind of job. A home deep in the woods, 'way off the beaten track. Thousands of acres of wild land for a back yard. The job: protect, clear, plow, seed—make your mark on this land. If we add a long range plan of action, a minimum of supervision, and adequate tools to do the job, we have characterized quickly the job of the Virginia game manager.

There are presently some 30 full-time resident game managers on the game commission's payroll. Scattered across the State from Messongo to Clintwood, they are the men who carry out most of the game division's game restoration activities on commission-owned wildlife management areas and on other public and private



Some game managers, such as Ramon Sparks, Poor Valley unit manager, rent homes built by the game commission (left).

This Appalachian Trail Shelter (right) was built on the Dismal unit to shelter fishermen as well as hikers.







by disking and seeding with waste screenings to prevent erosion and provide food and assistants seed a road along Blacks Run in the Dry River unit of the National Forest.

## Virginia Game Manager

M. R. Cutler

lands on which the commission, under cooperative agreements, is responsible for the game management work.

Cut a new road, seed an old road; grub out a new clearing, plant game food in an existing utility right-of-way; stock a mountain stream with trout, patrol a marsh for duck trappers; dam a creek to make a fish pond, bulldoze out a waterhole for game. With the aid of the district game biologist, plan your work, then work your plan. And then watch as, through the years, game populations respond to your efforts to provide food, water, and cover by providing increasingly better hunting for the army of hunters which grows every year. This is the labor—and the reward—of that behind-the-scenes jack of all trades, the Virginia game manager.



The rotary mower (left) is one of the game manager's most valuable tools. It eliminates brush and stimulates succulent new growth.

Saxis Area Manager Granville Ross uses a sturdy outboard boat (right) to patrol his Chesapeake Bay shore unit.



The result of many hours of hard work, this clearing on the Stony Creek unit in the Jefferson forest, the work of Game Manager Lon Oliver, is surveyed by Biologist Harold A. Trumbo.



Game Manager David H. White (at left), Supervising Biologist McLaughlin and Biologist Trumbo are pleased with a fishing pond recently built on the Dismal unit of the Jefferson.



Herbicide sprayed from a rig pulled by a tractor is used by Manager Sparks to keep vegetation from encroaching on Poor Valley unit roads. Care is taken to avoid spraying game food-producing trees and shrubs.





## **A Persistent Game Bird - - The Ruffed Grouse**

S.C.S. Photo

"The versatile food habits of the ruffed grouse enable it to find sufficient food at any time during the year."

**T**HE RUFFED GROUSE, called "partridge" in the North and "pheasant" in the Deep South, is one of our most important upland game birds. Many sportsmen who have hunted the ruffed grouse and are familiar with the habitat in which he is found, and the nature of his flight, consider him to be the "king of game birds."

In certain areas of Virginia the bobwhite quail population has been greatly decreased because of agricultural practices which have destroyed or altered its habitat. Such trends in agriculture have not proven as great a detriment to the ruffed grouse. There is no doubt but that grouse were present in valley forests prior to the time that agricultural practices caused the clearing of large areas, but the ruffed grouse has always been more at home on the rugged mountain slopes, where thickets of greenbrier, laurel and rhododendron are so dispersed as to offer protection from would-be intruders. Here the ruffed grouse is safe from the encroachment of civilization, for most of the mountainous area of Virginia is owned by the state or federal government. The grouse is comparatively safe even where the land is privately owned, for the degree of slope and the physical and chemical characteristics of the soil are such as to not warrant the removal of timber for the purpose of planting crops. Occasionally someone clears a small area of mountain land in an attempt to glean a living from soil that is not suitable for crop production, but usually this same area is abandoned after a few years, allowing vegetation to appear that furnishes food and cover for the ruffed grouse and other forms of wildlife.

The ruffed grouse is a cyclic game bird, and as such, may increase in population to a very high level of abundance, or may decrease in numbers to the extent of becoming quite

scarce. No one has been able to ascertain why grouse pass through cycles of increasing and decreasing population levels, but the fact that grouse do increase to abundance from a low population level is a strong indication that they are as well, if not better, suited to their environment as any game bird. It is not too difficult to prove, from the food habits aspect, why the ruffed grouse is a tenacious and persistent game bird.

In order for grouse to survive and reproduce their kind, they must have available, at all times, adequate food and cover. Food is essential in maintaining the activities of the body, and cover is of utmost importance in that it lends shelter from adverse weather conditions and offers protection from the natural enemies of the grouse such as red and gray foxes, the great horned owl, and Cooper's and sharp-shinned hawks.

The natural habitat of the grouse is wooded areas, consisting mainly of hardwood trees, with some conifers—pine, hemlock, spruce and fir in the North and pine and hemlock in the lower Appalachian range. This type of vegetation in itself offers some cover and a variety of foods, but the grouse is more specific. Dispersed throughout such areas are to be found thickets of laurel, rhododendron and greenbrier, with an occasional tree supporting the vine and dense foliage of wild grapes. It is in such areas that the grouse is more often found. Under conditions of favorable habitat the grouse has excellent cover, but were it not for his versatile food habits and the proximity of food to cover, the grouse might have long ago disappeared from areas where he still exists.

Young grouse, usually hatched out in the early summer, are precocial—they are covered with down and completely



developed when hatched, and have the ability to leave the nest soon after hatching to search for food with the mother bird. The young birds cut their temporary teeth on insects such as flies, ants and beetles. Natural or artificial clearings made in the forest offer excellent conditions for insects and fruits to thrive. Naturally the feeding habits of young grouse cause the old grouse and her brood to visit such areas. As summer progresses they eat such foods as strawberries, raspberries, blackberries and dewberries. The fruit of the serviceberry is eaten in large quantities during the early summer. In the summer grouse also obtain green material such as the leaves from partridgeberry, wintergreen or mountain tea, and sheep sorrel.

With the approach of autumn, insects nearly disappear from the diet, leaves and fruits decrease, and the bud intake is gradually increased. But the bud constituency of the diet does not become all-important until winter arrives. The grouse displays a preference for fruits and leaves as long as they are available. In Virginia during the autumn months grouse eat the leaves and fruits of various greenbriers, the acorns of oaks such as white oak and bear oak, fruits and leaves of wintergreen. The fruit of sumac and the fruit of wild grapes are often taken.

The approach of winter is not of serious concern to the grouse. Even during periods of very severe weather, when snow is deep and the temperatures low, the grouse does not suffer undue hardships. When food on the ground is unavailable, the grouse seeks his food on the branches of trees and shrubs. In the trees and shrubs he finds ample food in the form of buds and catkins, on which he will subsist for extended periods if other food is unavailable. Buds and catkins of blueberries, huckleberries, minziesia, hazelnut, serviceberry, mountain laurel, rhododendron, yellow birch, black birch, oaks and apples are eaten in abundance throughout the winter months. The grouse is seldom forced to a diet consisting solely of catkins and buds, for often persisting throughout the winter are such fruits as those found on the frost grape, saw brier, pasture rose, blackhaw, maple leaf viburnum, sumacs, and hawthorne.

When winter departs and spring arrives, the staple bud and twig foods begin to disappear from the grouse's diet, and in their place are substituted succulent green-leaf foods, some of which are newly sprouted and others which have been exposed by the melting snow. Flow blossoms, especially those of the strawberry, are eaten in large quantities. Leaves of ferns, strawberries, hawthorne, partridgeberry, sheep sorrel, mountain laurel, and wintergreens are taken in abundance in the spring. The scarcity of fruits in the spring prevents the grouse from eating large quantities, but such fruits as those of sumac, rose, greenbrier, hawthorne, wintergreen, and partridgeberry are often present and are taken. When spring silently slips into summer, fruits again make up a major portion of the diet.

The versatile food habits of the ruffed grouse enable him to find sufficient food at any time during the year. It is difficult to believe that the grouse finds all the food he takes palatable, but long ago he learned, without the aid of dietary experts, that a variety of food is all important to successful living.

The proximity of grouse food to protective cover is another very important factor in his ability to survive and hold his own against factors such as weather and predators—factors which often cause starvation and death among other forms of wildlife. All good grouse range has within its limits thickets of laurel, rhododendron and greenbrier, and

also present are wild grapes which produce a dense growth of foliage in the trees and shrubs to which they cling. It is indeed fortunate for the grouse that he feeds on grapes, laurel, rhododendron, and greenbriers, for they afford excellent cover and protection as well as food. Wintergreen, blueberries, huckleberries, ferns and partridgeberry, all excellent grouse foods, are often found growing under and near to clumps of laurel and rhododendron. At nearly all times when grouse are feeding, they have in the immediate vicinity, dense cover in which to retreat if necessary. The grouse, unlike the bobwhite quail, does not have to venture forth on an open wheat stubble field in search of food. He has his food and cover closely associated. This fact, linked with the habitat in which he is found and his known ability to dodge the hunter's shots, is of prime importance in enabling the grouse to hold his own in a civilization where many forms of wildlife are on the decline.

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## CONSERVATION EDUCATION

(Continued from page 12)

with our schools and colleges, where most of the responsibility for formal education rightfully belongs, and (2) general education.

Under the former we can put such activities as resource agency cooperation with the various state departments of education and councils on higher education, direct help to educators in curricula development and planning, textbook rewriting, preparation of teacher training guides and reference materials, films, and assistance with pre-service as well as in-service training of teachers in conservation. These school and college activities are largely handled by conservation education specialists from natural resource and education agencies concerned and involve close cooperation with all interested groups.

On the side of general education, one might list such activities as the preparation of practical and other helpful materials with a conservation slant for specific publics, good slides and films emphasizing conservation principles and concepts, and direct personal contacts with groups who can help influence public attitudes in the direction of conservation.

In general education, two main groups of publics are involved: youth groups outside the formal classroom, such as 4-H, FFA, Boy Scouts, Girl Scouts, summer camp groups, and the adult public with its maze of formal and informal, organized groups. Effort in any one or all of these areas aimed at the teaching of general as well as specific conservation principles and concepts, as well as the engendering of conservation interest and action, constitutes, in my opinion, an important aspect of general conservation education.

And so we come to the final matter of trying to define conservation education. If we accept the idea that conservation is both a technology and a philosophy and agree that education is the development of intellectual, moral-ethical and spiritual capacity, our answer can be framed quite logically: Conservation education, broadly speaking, is the deliberate, life-long attempt at the education of our people in the *wise use of all natural resources, including the development of man's moral-ethical and ecological relationship to his earth and all living things thereon.*

# JOHN DOE AND THE DEER PROBLEM

Deer are everywhere, and in far too many cases deer are in trouble

By DANIEL A. POOLE

Commission Photos by Kesteloo

**A** GREAT natural resource is being wasted. Many hours of healthful recreation are being lost. Untold acres of range are being destroyed and thousands of deer at this very moment are faced with prospect of a slow, miserable death. Why? Because people are more difficult to manage than deer.

These charges might seem downright ridiculous during the greatest deer bonanza in our nation's history. Record kills are being made in many states and shooting seasons scheduled for the first time in several years in others. But the fact remains that game managers in most states know that not nearly enough animals are being taken. Mounting complaints of deer damage from orchardists, produce growers, ranchers, and timber companies would verify this fact. Deer are everywhere. And, in too many cases, deer are in trouble.

At this point you could logically ask "Whose fault is it? Why does this problem exist in so many regions of our country?" How can they keep coming when we kill 'em by the million?

For one thing, the history of deer populations has shown repeatedly that deer are their own worst enemy. They cannot stand prosperity. When you add to this the complacency of man—either through lack of understanding by the individual or the unwillingness of sportsmen and game managers to espouse the gospel of modern game management—the problem becomes acute. Unfortunately, deer herd management balances on the unstable pinnacle of public whim in many states today.

There is no doubt that deer are taking care of their part of the bargain. Record numbers exist and areas of previously unoccupied habitat are being invaded. And it is mainly because enlightened herd management has gained a foothold in some states that hitherto unheard of harvests are being made. Ten states, with varying capacities as deer producers, rack up nearly half the total bag. There is little doubt, however, that the national take would swell considerably if more sportsmen would accept the reports and recommendations of their wildlife departments. For the most part it is the sportsman—the man who forever seeks hunting opportunity—who stands in the way of more liberal seasons in many states. In others, the shooter fails to stick up for his rights.

Take the case of West Virginia, where in 1957, the conservation commission reluctantly restored the outmoded "Bucks Only" law in order to stave off so-called corrective legislation by the State Legislature. Oddly, it was the people who favored continuation of the commission's realistic deer herd management program that brought about its downfall. Although 85 per cent of West Virginia's sportsmen's clubs

and other interested groups voted their support of the commission's "Any Deer" hunting plan, these groups apparently stood on the sidelines while the "Bucks Only" boys mesmerized the legislative body.

To stave off the law makers, and feeling that it had failed to acquaint either the people or the Legislature with the reasons for its herd management plan, the commission decided to limit shooting only to antlered animals. In an editorial in March, 1957, issue of that state's official publication *West Virginia Conservation*, former commission director Carl J. Johnson explained:

"We have what we believe to be one of the best plans found anywhere in the country for managing our deer herds for maximum harvest. Many state conservation departments agree with us. Over the past six years we have seen a harvest of more than 100,000 deer, five times more than would have been taken during that period under the old "Bucks Only" law. Our deer have never been in such good condition. Their reproduction rate is at an all-time high. And we entered the 1956 season with the most deer we've had in this state since the first "Any Deer" season in 1951.

"If we knew as much about people as we do deer," John-



A sign that discloses a deer herd out of balance with its environment: the bucks have less heavily beamed antlers, and often spike-horns are found in the older age groups.

Reprinted from *Outdoor America*, magazine of the Izank Walton League of America. The author is Editor of the *Wildlife Management Institute's Outdoor News Bulletin*.



son wrote, "the problem which annually arises concerning our state's deer herd would dissolve."

Too often public understanding of deer herd management—and other wildlife management problems—suffers because the findings of the game departments justifying a more liberal harvest of deer are not presented in sufficient detail or in a manner that invites understanding. State game departments have an obligation to explain reasons for specific deer seasons to sportsmen in concise, comprehensible terms. The average shooter has neither the time nor background to ferret out the facts, piece them together, and come up with precise conclusions from a report that usually can only be understood by technicians in the wildlife field.

Some people and even some agencies might feel that the wildlife agency's primary function is to do a good job of handling the wildlife resources for which it has the sole responsibility. This is no longer a correct assumption. At least, it is not a broad enough definition. In this day and age wildlife agencies have the equally important job of keeping the public properly informed. Sportsmen have an obligation and the right to demand adequate information if their state agency fails to provide the facts. Unimaginative agencies should be forced to put their fact-finding and reporting services in order.

Deer populations and deer herd problems in many areas are reaching the point of "sink or swim." The gunner who wants to keep his sport alive had better hold tight to the life preserver thrown him by way of adequate facts, based on comprehensive field work and study, by his state game department. And the departments had better make sure that the facts are clear.

Let's look at some basic facts of modern deer management: Examine the record in Colorado where long years of fact-finding plus sportsman acceptance through under-

standing, has led to the most liberal deer hunting regulations in the nation. In Colorado, and in other progressive deer management states, deer problems are tackled by special seasons in problem areas.

In 1957, Colorado gunners had the opportunity to take two deer per license in six pre-season and seven post-season hunts. This was in addition to the state's regular deer season. In some one-deer areas, hunters desiring a second animal needed only purchase an additional permit at a nominal fee. The most liberal deer season in the nation was staged last year on Colorado's Western Slope and in the Rio Grande drainage. Their state agency allowed the taking of two deer per license from October 15 through November 17.

Of course, not all states can have such liberal seasons. A greater number of hunters and the lack of suitable large expanses of countryside make it impossible. Colorado's program, however, is a good example of how a game department can use flexible management authority to concentrate hunting pressure in areas needing a larger harvest of deer. This same authority permits the diversion of shooters from areas where the deer should be given an opportunity to repopulate.

The results of Colorado's program show that an agency must have hunting regulations to fit the biological conditions within each major herd area. It is the most important management tool a state agency can possess. Every state agency should have the authority to regulate deer hunts on a unit or regional basis so the best management can be applied where and when needed.

Biologically, the rules of animal husbandry apply to deer herd management. A pasture can accommodate only a certain amount of livestock. It will produce sufficient feed to put 50 pounds each on 100 head of stock or five pounds each on 1000 head. And when the number of animals in the herd unreasonably exceeds the available forage, the grower gets little reward for his effort. His stock is gaunt and commands lower prices at the market: and close-shorn pasture produces less forage because the plant vitality has been diminished by over-use. The rancher soon realizes the fine balance between the requirements of his animals and the ability of his pasture to provide these requirements. He stocks his range accordingly.

The signs that disclose a deer herd out of balance with its environment are not so obvious to the untrained eye. Preferred shrubs are severely browsed and less palatable species are used heavily by the hungry animals; winter starvation is common and the mortality is excessive; fawn survival plummets because the younger and smaller animals cannot reach as far for food as do the adults; the deer are smaller than those from properly stocked ranges; the bucks have less heavily beamed antlers and often spike-horns are found in the older age groups; and the does drop fewer fawns in the spring.

Natural regeneration of vegetation is a long-term process. It takes many years for overbrowsed plants to regain their vigor and produce good growth. Even if the deer are cropped heavily by shooting, careful management is necessary to see that the population does not rebuild faster than the ability of the native forage to sustain the animals. The reduction must be maintained if the problem is to be prevented from recurring.

Within many states the symptoms of chronic overpopulation of deer are evident. Some states are fortunate because aggressive leadership by wildlife departments coupled with



Other indications of "deer in trouble": preferred shrubs are severely browsed; winter starvation is common; and the deer are smaller than those from properly stocked ranges.



sportsmen support is moulding flexible herd management plans that result in more hunting opportunity. Shooters not only get a chance to spend more hours afield, they also have a darn good chance of bagging a deer. It must be pointed out that in these instances, the sportsmen and the public in general knew that deer numbers had to be reduced to protect the range.

Properly stocked deer ranges have blessings. Records taken from 8,800 deer bagged in Wisconsin on ranges classed either as "good" or "poor" showed that adult and yearling bucks from the non-critical areas weighed 11.7 pounds more than those from the improperly stocked ranges. Does were nearly five pounds heavier and significantly outweighed the bucks from the poorer habitat.

It also has been shown conclusively that the productive capacity of does is greater where the animals are in balance with natural food supplies. More fawns are produced by adult does—and a proportionately larger number of twins—on good range. In New York, a leader in deer management and research, workers found that some doe fawns were being bred in their first fall at the age of six to eight months. But only four per cent of the doe fawns bore young in the inferior Adirondack Mountain habitat, while 32 per cent of the sub-adult does carried young in the good ranges of the western part of the state. Needless to say, the accelerated reproductive rate adds greatly to the overall deer population. Hence, the herd can withstand more gunning pressure.

These are the facts of modern deer management. If they were more widely accepted, game managers believe that 20 per cent of the fall population could be bagged by shooters when deer are properly managed in balance with the productive ability of their range at all seasons of the year. There is little reason to believe that much more than 10 per cent of the fall herds are being taken today. The rest fall by the wayside, lost for recreation, wasted as food and too often allowed to either destroy their range or eventually die from starvation.

It must be realized that lack of public prejudice largely prevents game departments from implementing the storehouse of known deer herd management techniques. When the time comes that these proven techniques can be applied broadly we will shoot many more deer.

State game departments should be praised for incorporating biological deer herd management within their plans. But, this is only part of their job. They must get public support of such a program. If they don't, they are at fault. And, if as mentioned, the public stands in the way of modern game management, it would be safe to assume that in most cases it is the agency's fault if an acute deer problem exists since they have failed to properly inform the public.

Most game departments recognize that people are more difficult to manage than deer and they must do something about it. They know that an informed and cooperative public will go a long way toward solving acute deer problems.



S.C.S. Photo

If you can control the water level of your farm pond, drain it down and plant the banks and shallows to natural duck foods, then flood it in the fall.

## Farm Ponds for Ducks

**M**OST duck hunters would welcome the opportunity to attract and hold wild ducks where they wanted them.

This can be done at a very reasonable cost—in most cases for less than the average duck hunter spends to shoot over public or private hunting waters.

The secret is to plant natural duck food. Planting natural duck or game food is not baiting if it is left alone to grow

naturally and is not cut. It is obvious that the number of wild ducks and other game in any particular area, and the length of time they remain in the area, depends on the amount and quality of food available.

An acre can be planted with natural duck foods for about \$25.00. The plants should be perennials, and usually one planting is sufficient for several years. Plants and seeds recommended include wild celery, sago pond weed, wild



rice, nut grass, widegeon grass, redhead grass, and lowland smartweed seed. For the type of seed to use in your locality, contact your local game commission representative or county agent.

You may now ask how all this can be done.

First, if you are a farmer or landowner, you may already have a farm fish pond. This may be combined into a duck-hunting pond just by controlling the water level and planting the banks and shallows. You must be able to lower the water level at least two feet in your pond so the banks can be planted and grown before flooding in the fall. This can be repeated each summer until there is sufficient food in the pond.

The ideal duck pond is about six acres, or perhaps two three-acre ponds which may be drained one into the other, located in lowland, surrounded by hardwoods, fertilized and planted with wild (Jap) millet, wild celery and sago pond weed, left to grow for 60 to 70 days, and then flooded to a depth of three feet.

If the pond cannot be drained, perennials should be planted each year until a good stand is obtained.

These ponds can be flooded from a nearby creek or lake. A pond like this may accommodate six two-man blinds, depending on the shape of the pond.

To construct such a pond it takes a bulldozer three days at \$100.00 a day plus \$25.00 per acre to plant, making it a total cost of about \$450.00 for the pond plus the cost of the land lease. Six sportsmen can get together and build such a pond for less than \$600.00, or about \$100.00 per person initial cost. The remaining cost would be the lease plus about \$25.00 a year for replanting. Smaller ponds of one acre or less could be built or converted for one duck blind by farmers or landowners.

Sportsmen interested in constructing such ponds should first contact the Bureau of Sports Fisheries and Wildlife, U. S. Fish and Wildlife Service, Washington, D. C. and your local Soil Conservation Service agent. By doing this, you will get a free survey and advice on planting. You will find it pleasing and enjoyable to manage and own your own duck pond.

—RICHARD L. RUSSELL, PH.D. *Vice President,*  
*Virginia State Rifle & Revolver Association*

\* \* \*

#### Tips from Patuxent

Studies at the U. S. Fish and Wildlife Service's Patuxent Wildlife Research Center have shown that shrub swamps of alder and swamp rose, generally of little value to waterfowl, can be converted easily to productive waterfowl feeding and breeding grounds by management of water levels. Flooding these plants to a depth of 1½ to 2 feet for one growing season causes them to develop dense clusters of rootlets at the water surface. Lowering the water level suddenly during the first half of the following growing season, so as to leave the new rootlets dangling in the air, kills the shrubs in a very short time. This provides a quick and cheap method of control. Drawing down the water also permits replacement of these low-grade shrubs by grasses, sedges, and smartweeds of value to waterfowl.

The practicability of seeding waterfowl impoundments with a mixture of waterfowl food plants in a single application has been demonstrated in tests at the Patuxent Wildlife Research Center. One quart of seeds of a number of species of grasses, smartweeds, and sedges is mixed thoroughly with

10 to 12 quarts of sand. This mixture is broadcast by hand on the exposed bottom of an impoundment. Flooding of the basins for 12 to 15 months, followed by a drawdown, leaves a moist seed bed and provides conditions suitable for excellent germination.

#### Feed 'Em and Save 'Em

With winter on the wane and spring still in the offing, this is the period of "bread lines" for wildlife in many areas of the country. The practice of feeding wildlife during critical periods of heavy snows and extreme cold has become well established in some sections and undoubtedly has saved a considerable portion of the breeding stock. These programs are particularly important when an icy crust prevents access to natural food supplies.



Commission Photo by Kesteloo

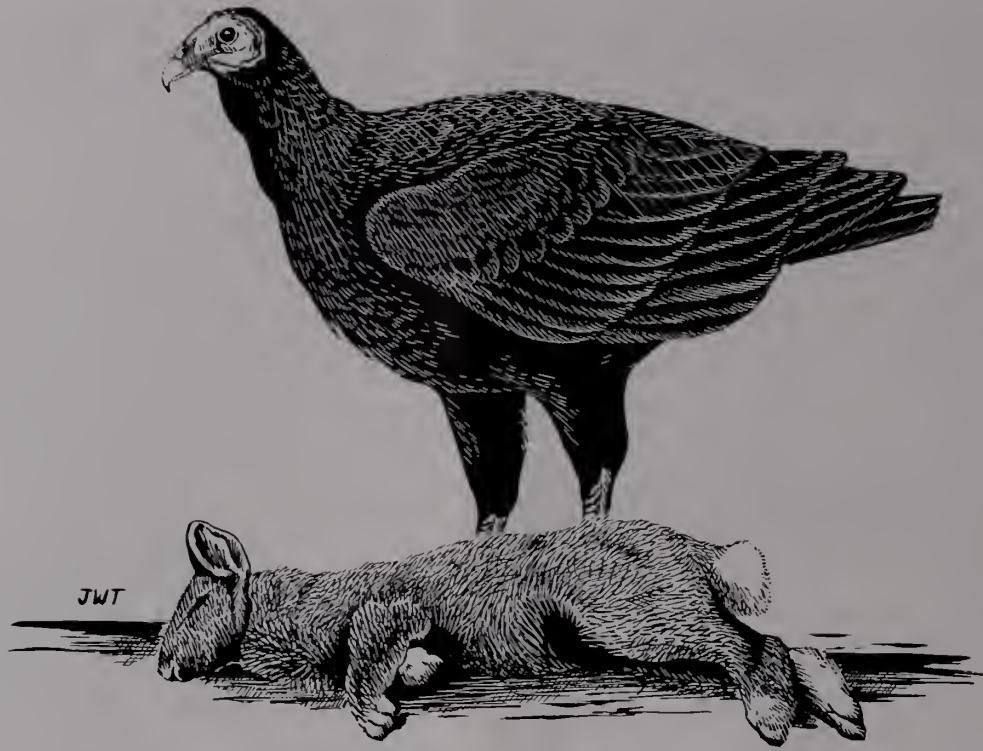
Winter feeding is no substitute for planned planting programs which provide natural food when it is needed most.

Grain for winter feeding programs is expensive and continued emergencies strain the resources of sportsmen's organizations who are forced to operate on a limited budget. Many of these organizations are urging housekeepers to cooperate by saving scraps of bread and suet.

In addition to the uncertainty of supply, winter feeding programs are usually handicapped to some extent by the prevalence of predators. It does not take hungry predators long to discover that feeding stations provide banquets for them, too . . . in warm flesh and bone instead of grain.

Wildlife management practices have made much progress in recent years, and it has become generally accepted that wildlife habitat improvement programs are of much greater, and far more lasting, value than emergency feeding activities. And usually they are less expensive. In sections where the natural food is buried under a heavy blanket of ice-crusting snow for periods of considerable length, winter feeding programs are extremely important for well-fed game can survive great hardships. But carefully planned planting programs provide natural food when it is needed most and can mean the very survival of game in more areas than some realize.





*Bird of the Month:*

## *The Turkey Vulture*

By DR. J. J. MURRAY  
*Lexington, Virginia*

**F**EW birds can present such a contrast as does a turkey vulture in the air when compared with the same bird on the ground. As these birds gather about the carcass of a cow, moving from spot to spot with awkward hops, crowding one another, their ungainly movements and their ugly bare heads make a repulsive scene. See one of them in the air, however, skilfully turning with every change of the breeze, sailing for miles with scarcely a wing movement or rising in circles until it disappears into the clouds, and it is then a graceful picture. Depending upon the foulest of food and yet at home in the blue sky—what a paradox is its life!

The turkey vulture, or as it is often called, the turkey buzzard, is a big bird with a wingspread around six feet and a weight of four or five pounds. Its wingspread is almost as large as that of an eagle, though its weight is only a little more than half as much.

In color the bird is dull black below, with the back half of the wing appearing silvery. Above, the brownish edges to the feathers make it a very dark brown rather than black. The skin on the head is naked, crimson in color, often with wart-like knobs. The bill is heavy and somewhat hooked, enabling the bird to tear away the skin of a carcass.

The turkey vulture feeds entirely on meat. Its most common food is carrion, for here it can feed at leisure and to the full satisfaction of its huge appetite, until nothing is left but the bones and the toughest pieces of skin. Nowadays

it has learned to take advantage of the destruction caused by fast automobiles and to feed regularly on fresh "road kill." Occasionally it kills small animals for itself. Vultures are of economic value in the disposal of the carcasses of animals that die.

It is still a matter of some dispute as to whether vultures find their food by sight alone or by sight and scent. All agree that sight plays the larger part, and most ornithologists think the whole part. Even when experiments with covered food seem to indicate that the birds have located their carrion by smell, it may be that the sight of flies buzzing about the meat have been noted by their extremely keen vision. Certainly, as one buzzard finds some food, others on the watch in the air follow it to the feast.

Turkey vultures nest in sheltered nooks. In the Virginia mountains it is usually in a small cave or in a crevice in the rocks, while elsewhere it is in hollow stumps or logs, in abandoned shacks, or even under thick clumps of bushes. There is no nest other than the ground. Here the large and beautifully marked eggs nearly three inches long are laid, usually two of them but sometimes one and rarely three. The young, covered at first with white down, are hatched in about 30 days, then staying around for a couple of months before flying. During this time they are fed by regurgitation. A not too pleasant habit of young vultures when disturbed is to present the visitor with their recent meals of odorous carrion.





Photos by The Eastern Shore News



Picture crews of 20th Century Fox Motion Picture Corporation (above) are preparing the ponies just before taking a scene for "Misty of Chincoteague." At left, Pam Smith (left front) and David Ladd (right) are shown with friends on the "Misty" set.

### Hollywood Films "Misty" in Virginia

Chincoteague National Wildlife Refuge on Virginia's Eastern Shore was the scene for the filming of "Misty of Chincoteague" by 20th Century Fox motion picture crews during October, 1960.

David Ladd, son of movie star Alan Ladd, and Pam Smith play the parts of Paul and Maureen Beebe in this film from the book by Margaret Henry. "Misty of Chincoteague" is a story about the wild ponies that live on Assateague Island.

Despite bad weather, the crews finished their shooting on Assateague Island in three weeks.

### Good Books

Planning to go camping next spring or summer? Some very good camping tips can be found in *The Camper's Bible* by Bill Riviere. This well-illustrated, large paper-back covers everything from tents to frying pans. Proper tools, clothes, packs, and campsites are included in this book. No matter if you plan to camp on a mountain top or a seashore, you will find something helpful in this guide. Doubleday & Company, Inc., 176 pages, pictures and drawings, \$1.95.

### Winter Field Trips Are Fun

When snow covers the ground, our woodlands appear to be asleep. Only an occasional call of a crow or the trickle of a partly frozen stream break the silence. However, field trips during the winter months are fun because life can be found everywhere if you know where to look.

All the trees have buds and under the carpet of dead leaves one can find roots of spring plants awaiting warm spring days.

Fresh snow will reveal the whereabouts of mammals and birds who have left their tracks as evidence. The Game Commission has a free animal tracks identification booklet available upon request to help you recognize these tracks in the snow.

Winter feeding of wildlife can be lots of fun, too. Corn and other grain can be placed in the woods to attract deer, turkeys, quail, and squirrels.

Constructing and placing songbird feeders can be quite rewarding. The Game Commission has free diagrams for the construction of several different kinds of songbird feeders.

At least four very different winter field trips can be made in Virginia. Trips to the forests, the marsh, the field, and the seashore will all produce a variety of winter wildlife. Those really looking for spring can find it even in the dead of winter.



Commission Photo by Harrison  
Deer Tracks

### Newport News Boy Bags 6-Pointer

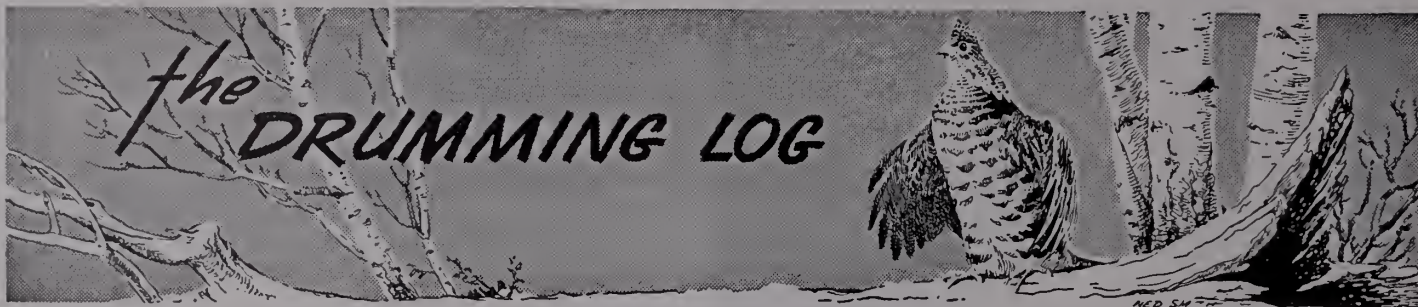
Richard Garner, a 14-year-old Ma-gruder School student in Newport News, bagged the first buck of his career with a 16-gauge shotgun in mid-December. The three points on the left antler of Richard's buck were identical to the three on the right antler.

### Norfolk Waltonians Sponsor Gun Safety Course

The Norfolk Chapter of the Izaak Walton League of America sponsored a gun safety course for more than 4,000 pupils in the Norfolk area last fall.

Students in the first year of high school there received proper instructions, books, certificates and membership cards, reported Mickey Friedman, chairman of the project.





### Winterize Your Tackle

The following is a summary of ideas resulting from a bull session with one of our old-time trout fishermen. If you follow even a part of these tips, you might not have to stay up all night the last day of March getting set for the opening of the '61 season.

**FIRST.** gather up all that stuff you have crammed in the trunk of your car and stacked in the corner of the basement, and spread it out on the kitchen floor. If you can accomplish step number one without being thrown out on your ear, there's a good possibility you'll be allowed to continue the job to completion.

**WADERS.** If you had wet feet on that last trip, it's possible that there's a small leak somewhere. There are two accepted ways of finding leaks. The easiest way is to insert a flashlight (turned on) and look for the light shining through the hole. Another way is to fill your waders with water and look for it gushing out the holes. Mark all holes with a chalk mark or insert a tooth-pick. Dry them thoroughly with the exhaust blast from the vacuum cleaner or hair dryer and apply the patches. After all the holes are patched and the waders or boots are dry, hang them upside down in a cool, dry spot for the winter. This comment in passing. Don't try to patch that large hole at the top, that the suspenders go over. It's supposed to be there.

**RODS.** The rod is the tool that does all the work in fly fishing and surely deserves the very best of service. Inspect all the line guides to make sure your line hasn't worn sharp edges. If there are any bad guides, replace them during the winter while you have time enough to do a good job. A bad guide can cost you a good line in just a little while. It's a time-consuming job but if you work it right, it could get you out of helping with those supper dishes for at least a couple of evenings. Loose ferrules can cause you trouble when you're fishing. Buy a new set of ferrules and replace them yourself. If the finish of

your rod is dull, you may want to re-varnish it. Remember, two *thin* coats of finish are better than one thick one. A light sanding of the cork grip or a good scrubbing with soap and water will make it look like new. Be sure your rod is good and dry. Place it in its case in a cloth bag or hang each piece by the tip to avoid a set. Store it in a cool, dry place.

**NET.** In a year of hard fishing, the dip net can go through some pretty punishing treatment. It is in the water most of the time you're fishing, consequently thoroughly wet. Many fishermen don't think about drying the net out before putting it in the trunk. It can rot out! Snags, from going to and from the fishing area can take their toll

on the life of a net, also. New nets can be purchased or if you are energetic enough, make your own to your specifications. It might not hurt to leave just a little hole up near the top of the net. If the fishing is rough, you can always point to the hole and say that "I had my limit, but they got out through this hole while I was in eating breakfast." If your dip has a wooden hoop, you might have to refinish it so it will look its best when you walk up to the stream opening day. A cool, dry storage place is best for this piece of equipment, also.

**LINE.** Be sure your line is clean and dry before you put it away for the winter. Rub it down with line cleaner and check its finish for any cracks or breaks. If it isn't in good condition, use it for tying up tomato plants next summer. A bad line will not shoot through the guides and will refuse to float if you fish it for any length of time at all. If the finish is in good condition, strip it off the reel into a shoe box, put the lid on to keep out the dust and mark the description on the box. Store it in a cool, dry place. It can be left on the reel during the winter but it will probably be as crooked as a cork screw the first time you fish it. When you put it back on the reel in the spring, don't forget to fasten it securely to the reel. You could tie into that big one that could take fly, leader, line and all. Let's face it, a guy is pretty well out of business when his line goes floating off down the stream.

**REEL.** After the line is off the reel, it's a fairly simple matter to clean it up just like new. Use a small artist's paint brush and a little safety solvent (*carbon tetrachloride is no longer considered safe to use*) to clean dirt and old grease from the parts. Personally, I prefer to use a coffee can with a lid. Place all the parts of the reel in the can and add enough kerosene (outdoors) or safety solvent to cover the parts. Put on the lid and shake and swirl till all of the dirt is loosened from the parts. Drain off the solvent and replace with warm water with detergent in it. Swirl and shake can on this final cleaning, rinse well to re-





move final traces of dirt and dry all parts in the sun. After the parts are clean and dry, oil or grease (sparingly) and reassemble. Make sure you don't have any parts left over. It makes you feel pretty silly to have a reel come apart with you when you're fishing. Store reel in a lintless case for the winter. A plastic bag is a good inexpensive case for storage.

**FLIES.** After a hard summer of fishing, a fly box can get pretty ratty-looking. Go through all of your boxes and discard all the flies that are in poor condition. I usually keep my discards in a jar in the back of my car. On many occasions I've had to raid the jar when I haven't had time to tie flies before a trip. By taking all the worn lures from your fly box, you'll have plenty of room to add the new ones that you tie up during the winter. If the hackle is mashed on an otherwise good fly, renew the original appearance by carefully steaming it over the tea kettle. Be sure to make up a good supply of your most productive patterns during the winter. You'll wish you had next summer.

**HATS.** A good fishing hat has a personality that requires very special attention. Usually, it takes a long time and a lot of effort to produce a good fishing hat, and it should be carefully cared for during the off-season. Stomp it in the mud (water will do if no mud is available), run over it with the car, take a few shots at it with the trusty 10-gauge. Any other method to return it to its original condition should by all means be done. Nothing is too good for the hat. When this is finished and the hat band is replenished with flies, throw it in a corner where the traffic is heavy and let it rest up for the new season.

Take heed and you'll be the envy of all the other fishermen come April 1, 1961.

—from *The Trout Line*, published by the Kansas City Chapter of the Missouri Trout Fishermen's Association.

#### Pioneer Archers Award Carp Trophies

The Pioneer Archers of Woodstock, Virginia, which held a carp contest from April 1 through September 30, 1960 reports that 227 carp weighing a total of 1,540 pounds were taken by bow and arrow during the contest.

Trophies were awarded to Ed Martin for the largest carp (27 pounds, 8 ounces); John McClure, second largest (21 pounds, 13 ounces); and James Hullihen for the most carp killed (63).



T. A. Yancy of Arvonnia, Virginia, caught these two 1¾-pound bass on one cast, using spinning tackle and an eight-inch plastic worm, while fishing in an abandoned quarry last fall. He had stocked the quarry with fingerling bass in June, 1959. Apparently the first bass struck the front end of the worm and the second bass tried to take it by striking the tail end sticking from the side of the mouth of the first bass.

Pins were awarded for the largest carp taken each month during the contest: April, John Sweeney (8 pounds, 3 ounces); May, James Hullihen (17 pounds, 5 ounces); June, Harley Shaver (15 pounds, 3 ounces); July, John McClure (21 pounds, 13 ounces); August, James Hullihen (17 pounds, 4 ounces); September, Ed Martin (27 pounds, 8 ounces).

All of these carp were taken from the North Fork of the Shenandoah River near Woodstock.

#### "Save Our Heritage Trees" Program Begun by Peninsula Council of Garden Clubs

Mrs. Sandidge Evans reports that the Peninsula Council of Garden Clubs, representing

44 garden clubs, is now undertaking a "Save Our Heritage Trees" program "to stop wherever we can the ruthless bulldozing down of all the beautiful trees . . . to make way for housing projects and shopping centers."

"Do you know," she says, "that Hampton hasn't one single park, and that Newport News has only one little one downtown?"

Mrs. Evans, of 23 Discovery Road, Hampton, would appreciate receiving information on how other communities have fought this "too-rapid progress blight" successfully.

#### Contributions from our readers . . .

##### A Good Morning

A Bobwhite stopped and whistled outside my kitchen door this morning. I went to look out and was just in time to see him and his little mate trotting quickly on.

The grass was dewy pearled with the sun rising above the smokey blue of the mountains.

I could smell the spicy freshness of the pines not too far away. I breathed deeply and was amazed at so much splendor.

And to think I would have missed it all, if a little Bobwhite had not called to me.

My coffee, fruit, and toast were extra delicious this morning because of him.

Long may he live and be protected through the services of wildlife conservationists.

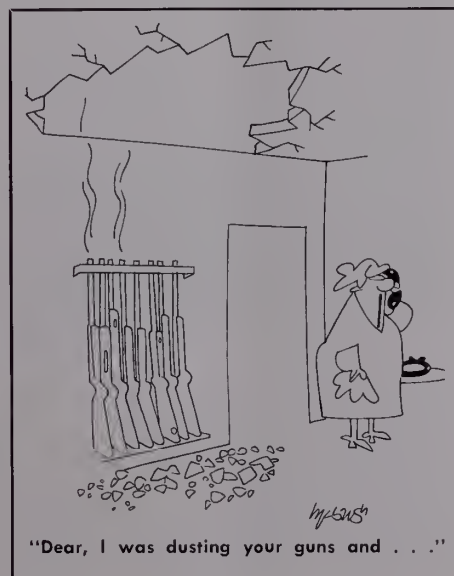
—MRS. THOMAS L. PERRY  
Winchester, Virginia

##### To "Pete," the Red Bird

Oh! Birdie with your gentle peck,  
Upon my window pane  
How bright you look against the snow  
How lovely in the rain  
You look at me with gentle eyes  
Which always seem to say  
Look up my love! Look up my friend  
There comes a brighter day.

I scatter grain upon the sill  
But you will never know  
How welcome is your lovely dress  
Against the winter snow.  
And so always within my heart  
I'll keep a memory dear  
Of a little red bird in the rain  
Helping my heart to cheer

—MRS. EWING MCMICHAEL  
Nokesville, Virginia







### Game Commission to Direct Intelligence for Civil Defense Operation

The Game Commission will play a vital role in saving human lives if ever the United States suffers a nuclear attack. Richmond office personnel will operate the intelligence center at State Civil Defense Headquarters, keeping in touch with personnel in disaster areas.

On November 3, Executive Director Chester Phelps and supervising personnel from all divisions attended a civil defense briefing at the underground State Civil Defense Control Center in Richmond in preparation for assumption of intelligence duties as set forth in the State Operational Survival Plan.



U.S.F.S. Photo

Peter J. Hanlon, Staff Assistant at the Regional Headquarters of the Eastern Region, U. S. Forest Service, Upper Darby, has accepted a promotion and transfer to the position of Supervisor of the North Carolina National Forests at Asheville, N. C. Mr. Hanlon succeeds Hugh S. Redding, who retired January 8, 1961. Mr. Hanlon graduated from the New York State College of Forestry in 1929. In 1936 he took charge of a Ranger District on the Monongahela National Forest in West Virginia and later served on the George Washington National Forest in Virginia.

### Game Restoration Work On National Forests Reported

Richard H. Cross, chief of the Game Commission's game division, described current federal aid game restoration activities on the George Washington and the Jefferson National Forests in reports covering the months of September and October, 1960.

Cross said that much emphasis was

placed on sign and boundary work and road and trail improvement on Commission and National Forest lands in preparation for the hunting season. Restoration, consisting of hand brushing of wildlife clearings, was a major activity, Cross added. One waterhole was completed and another started on the George Washington. A total of six miles of new hunter access roads were finished on that forest, and wild turkey trapping was also conducted there.

On the Jefferson, seven waterholes were constructed, 48 clearings were top-dressed and several clearings were sprouted and mowed. Deer trapping and turkey releasing was also conducted.

### Wardens Active During October and November

Webb Midyette, chief of the Game Commission's law enforcement division, reported that, in October, 1960, Virginia game wardens worked 32,951 hours, traveled 321,487 miles and won 574 con-

victions for \$10,877.76 in fines. During November, 1960, he said, game wardens worked 36,196 hours, traveled 354,586 miles, and won 700 convictions to add \$16,497.61 to the state literary fund.

Midyette stated that during October, Game Warden T. A. Daniel of Loudoun County led the state in the number of convictions for game law violations with 35. During November, Midyette said, Game Warden Fred W. Hottle, working in the Thomas Jefferson District, led the state in convictions for game law violations with a total of 33.

### Julian Hill in 35th Year of Service as Game Warden



Photo by Harrison  
Warden Julian Hill

Julian H. Hill, State Game Warden for Richmond City, completed 35 years of game warden service on October 27, 1960. He is 66 years young.

Julian was appointed game warden in 1925 by Colonel MacDonald Lee who was Commissioner of the Department of Game and Inland Fisheries. The game and fish department offices were then located on the balcony of the State Museum.

When Julian first became a game warden he was a free lancer, working in many eastern counties. He became Richmond City warden in 1936. Through the years, Julian has often had the best conviction record for the month in the State.

Julian and his wife Erma, who have been married 43 years, live on Chamberlayne Avenue in Richmond.



Commission Photo by Harrison

Dr. Frank A. Hayes, Director of the Southeastern Cooperative Wildlife Disease Study, left the University of Georgia campus at Athens to visit Virginia's game division chief Richard H. Cross, Jr. (right), at Richmond recently. Based on information from Virginia and other States, a report just published by Dr. Hayes' group states that there are strong indications that wild deer are not carriers of Bang's disease (brucellosis) in the southeastern United States.





Half of the shipment of new enforcement boats are shown here waiting their pick-up by state game wardens. Fourteen boats, trailers and motors were purchased recently for use in the enforcement of Virginia's Boating Safety Act.

Commission Photo by Harrison

#### 14 New Warden Boats Arrive

Game wardens throughout the State are now better equipped to enforce Virginia's Boating Safety Act. Fourteen new boats fully equipped with motors and trailers were delivered in Richmond in November, the first shipment of new boating equipment since the boat law became effective.

The first order of equipment consisted of 14 fiberglass boats. Thirteen were 16-foot and one was 14-foot. In addition, ten 75-horsepower and three 40-horsepower motors were purchased. Lastly, 14 trailers accompanied the new arrivals.

These new boats are fully equipped with electrical starters and generators. Each boat includes a windshield, canvas top, fire extinguisher, life preservers, ring buoy, whistle, paddles, anchor and lines. Each rig cost about \$1,500, totaling some \$22,000 for the entire shipment.

Daniel Boone District received two; Thomas Jefferson, one; Patrick Henry, three; J. E. B. Stuart, one; Hampton Roads, three; George Washington, four.

#### Notice to Boat Owners with Temporary Certificates Only

Boat owners who have held temporary certificates of registration for more than 30 days without receiving a permanent certificate should notify the Game Com-

mission at Richmond immediately. Officials there are holding a large number of permanent certificates of registration with incorrect addresses.

#### Notice to Boat Owners Who Change Addresses

If you have a registered boat and move your residence so that your address no longer conforms to that appearing on your boat certificate of number, the law requires you to notify the Game Commission, on the appropriate form, of your new address within 15 days.

#### Summary of Virginia Boat Accidents For July-December, 1960

With the closing of the year 1960, Virginia completed its first six months under the State's new Boating Safety Act.

Accident reports received by the Commission of Game and Inland Fisheries indicated that, since July 1, Virginia boats were involved in 49 accidents which resulted in five deaths and 26 injuries. The greatest number of accidents (19) were caused by collision with floating objects or other boats. Loss of control resulted in seven accidents, and explosions caused six. Four accidents were caused by persons falling overboard.

In July, 20 accidents (4 deaths, 14 injuries) were caused by collision (5),

explosion (2), loss of control (5), hitting swimmer (3), skiing (1), falling overboard (1), and being swamped (3).

In August, 11 accidents (1 death, 4 injuries) were caused by collision (3), explosion (1), skiing (2), falling overboard (3), fire (1), and sinking (1).

September saw 12 accidents (no deaths, 6 injuries) caused by collision (9), hurricane (1), explosion (1), and loss of control (1).

October's four accidents (no deaths, two injuries) were caused by collision (1), explosion (2), and loss of control (1).

Two accidents in November (no deaths or injuries) were due to collision (1) and fire (1).

No accidents were reported in December.

#### Coast Guard Reports Nationwide Boat Accident Totals

Tabulations of available records by the U. S. Coast Guard indicates that in a six-month period ending on June 30, 1960, there were 815 boating accidents in the United States involving 1,031 vessels. As a result of these accidents 261 lives were lost, 274 people were injured and property damage amounting to \$1,087,800.00 was recorded. This was the six-month period which preceded the initiation of Virginia's Boating Safety Act.





## HERE COME THE D.

Diving ducks can usually be distinguished from surface feeding or "puddle" ducks by their take-off, smaller wings, faster wingbeats, and more frequent, neatly executed dives for food. To identify the different species look for the features illustrated below.



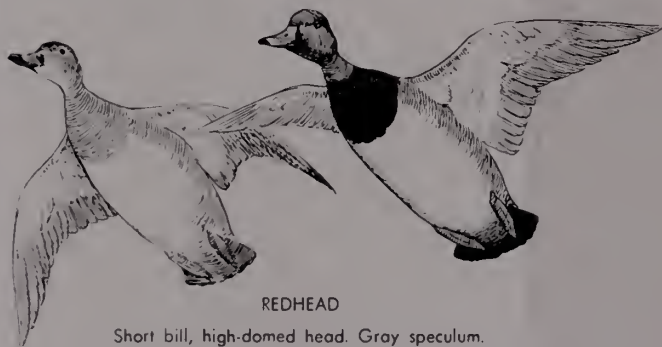
RING-NECKED DUCK

Bath sexes have gray speculum, gray bill encircled with white bands.  
Male—black head, neck, chest, back and tail.  
Female—similar to female scaup, but with ill-defined pale face patch.



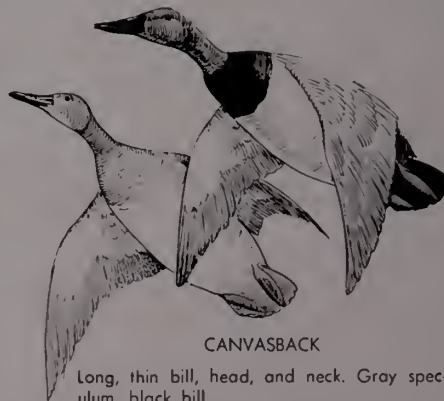
LESSER SCAUP

White speculum, or wing patch, that shows an underside. Bill blue-gray.  
Male—black head, neck, chest, and tail. Back pale gray. Underside white.  
Female—grayish brown, white beneath. Sharply defined white patch at base of bill.



REDHEAD

Short bill, high-domed head. Gray speculum.  
Male—bright reddish-brown head, upper neck. Chest, tail black, back gray.  
Female—gray wings, grayish-brown upper parts, white beneath. Gray bill.  
This duck is often confused with canvasback. Profile of head and bill are best identifying features.



CANVASBACK

Long, thin bill, head, and neck. Gray speculum, black bill.  
Male—reddish-brown head and neck. Black chest and tail, back nearly white.  
Female—head, neck, chest grayish-brown. Back and wings gray.



BUFFLEHEAD

Small duck with large head. Springs from water similar to "puddle" duck.  
Male—black head with puffy white patch. Black wings with large white patch. Body largely white, middle of back black.  
Female—upperparts dusky, cheek patch and small patch on wing white.



AMERICAN GOLDENEYE

Compactly-built duck with large head, white wing patch.  
Male—black head with white spot between bill and eye. Back black streaked with white. Wings black and white. Underparts white.  
Female—underside white, upperparts gray. Head dark brown.